

REMARKS

Applicant submits that the present amendment is intended to be fully responsive to the Office Action having a mailing date of November 28, 2003. In response to the Office Action, Applicant has amended the claims for the purpose of putting the application in condition for allowance. Applicant submits that no new matter has been added by this amendment and that support for the claims as amended may be found throughout the application as originally filed.

The present invention provides a method of tracing the motion of a three-dimensional object based on the stereo image of the object obtained in a time series. The method comprises the steps of selecting tracing points corresponding to the silhouette of the object concerned in the stereo image of the object; sampling from the above-mentioned stereo image the corresponding points on the silhouette of the object corresponding to the respective tracing points; measuring the three-dimensional coordinates of the sample corresponding points; and detecting the posture/position of the object from the three-dimensional coordinates of these respective tracing points and respective corresponding points, wherein the three-dimensional motion of the aforesaid object is traced by continuously repeating each process from the selecting step further detecting one toward each frame of the stereo image obtained in the time series. (See claim 1.)

35 U.S.C. §102

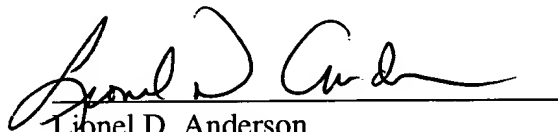
Claims 1-8 are rejected under 35 U.S.C. §102(b) as being anticipated by Sumi et al., U.S. Patent No. 5,845,006.

Applicant has amended independent claims 1 and 5 to include additional language which better describes the present invention as an object motion tracing method and apparatus for tracing the three-dimensional motion of an object having an arbitrarily curved and smooth surface. Applicant submits that the '006 reference can trace movements of a polyhedron such as

an object constituted by building blocks based on extracted edges, but cannot trace movements of an arbitrarily curved object such as a banana. The '006 reference recognizes a banana as an elongated oval object when laterally observed and suspended on one end, while the banana is recognized as a circular object when observed from above. Thus, the '006 reference recognizes the banana as a different object depending on an observing point and cannot trace movements of the banana in this manner. The present invention, however, can recognize an arbitrarily curved object substantially as it is. By utilizing a net configuration model, it can trace movements of the banana or other objects that have arbitrarily curved and smooth surfaces.

From the foregoing amendments and remarks, Applicant believes that the claims of the present application embody patentable subject matter and are in condition for allowance. As such, Applicant respectfully requests that such action toward these ends be taken.

Respectfully submitted,



Lionel D. Anderson
Registration No. 50,571
Gifford, Krass, Groh, Sprinkle,
Anderson & Citkowski, P.C.
280 N. Old Woodward Ave., Suite 400
Birmingham, MI 48009-5394
(248) 647-6000

Attorney for Applicant

U.S. Serial No. 09/669,384

Reply to Office Action of November 28, 2003

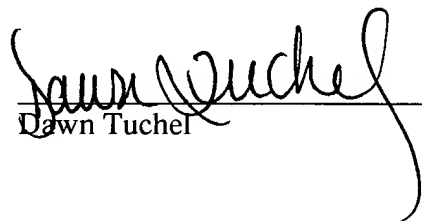


CERTIFICATE OF MAILING BY "EXPRESS MAIL"

"EXPRESS MAIL" MAILING LABEL NUMBER EV 435 304119 US

DATE OF DEPOSIT May 21, 2004

I hereby certify that this paper or fee (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service "Express Mail Post Office To Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


Dawn Tuchel

RECEIVED
MAY 27 2004
Technology Center 2600